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RecDroid: a resource access permission control portal and recommendation service for smartphone users

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COMPUTER SCIENCE

RecDroid

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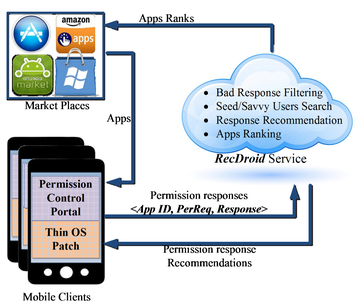
CAPSTONE DESIGN EXPO 2015

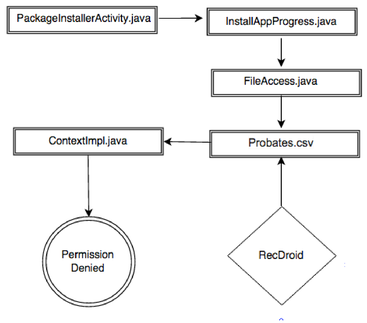
Introduction

The rapid growth of the smartphone applications market raises security concerns regarding untrusted apps. Most apps request to collect data irrelevant to their main functions. Traditional Android permission control design based on one-time decisions on installation are ineffective in protecting users' privacy and resource efficiency. RecDroid is designed to provide users with fine-grained resource control and recommendations on resource granting decisions based on expert users.

RecDroid Design

- Implement an application that allows permission management on Android
- Inform normal users based on the choices that expert users make

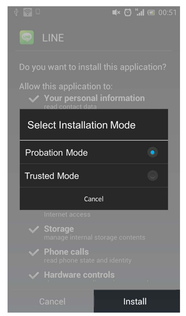


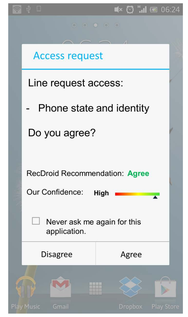


RecDroid Implementation

OS Modifications:

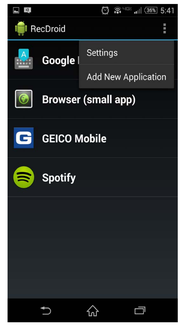
- Added a Probation Mode to the Installer along with a User prompt
- Add Permission Blocking Capabilities for RecDroid

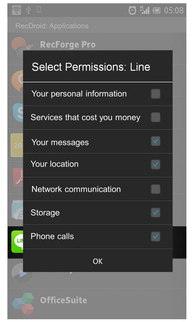




Application:

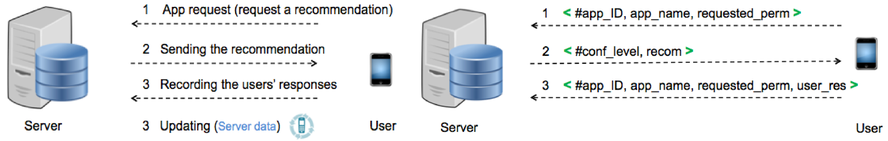
- Allows user to manage permissions for probated applications





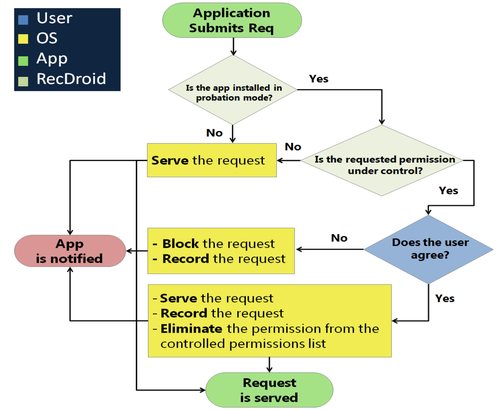
Recommendation Server:

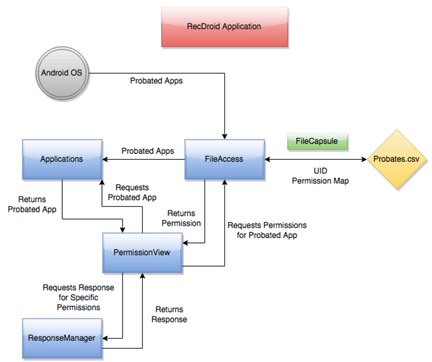
- Creates recommendations for the user, based off prior expert decisions
- Automatically determines who is and is not an expert user



Future Work

- Extend RecDroid to pre-installed applications
- Follow specific experts and their decisions





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